

Isotope Production and Distribution Program Fund

Funding Schedule by Activity

No funds are requested for the Isotope Production and Distribution Fund. Isotopes are currently produced and processed at three facilities: Los Alamos National Laboratory, Brookhaven National Laboratory, and Oak Ridge National Laboratory. Each of the sites' production expenses for processing and distributing isotopes will be offset by revenue generated from sales. See the Isotope Production and Applications section of the Nuclear Physics program within the Science appropriation for justification of the direct appropriations requested.

Description

The Isotope Program (Isotope Production and Distribution Program Fund) produces and sells radioactive and stable isotopes, byproducts, surplus materials, and related isotope services world wide. The Isotope Program operates under a revolving fund established by the 1990 Energy and Water Appropriations Act (Public Law 101-101), as modified by Public Law 103-316. Each isotope will be priced such that the customer pays the cost of production. The DOE will continue to sell commercial isotopes at full-cost recovery.

The Program's fiscal year appropriation will be received via transfer from the Nuclear Physics program starting in FY 2009. Prior to FY 2009, the direct appropriation was provided via transfer from the Radiological Facilities Management program within the Office of Nuclear Energy. The appropriation is used to maintain and upgrade the infrastructure that is needed to assure continued reliable production, with the production costs borne by the customers. Only funds from the Isotope Production and Application subprogram within the Nuclear Physics program will be expended on the development or production of isotopes.

The combination of the annual direct appropriation and revenues from isotope sales are deposited in the Isotope Production and Distribution Program Fund, the revolving fund. The fund's revenue and expenses are audited annually consistent with Government Auditing Standards and other relevant acts, such as the Chief Financial Officers Act of 1990 and the Government Performance and Results Act of 1993.

The Department has supplied isotopes and related services for more than 50 years. These isotope products and services are used by medical institutions, universities, research organizations, and industry for a wide array of uses and applications. These isotope products and services are also provided to many Federal agencies either directly or indirectly. For example, isotopes are provided to the National Institutes of Health and its grantees, the Environmental Protection Agency, and the Department of Homeland Security.

As the range of available isotopes and the recognized uses for them have increased, new or improved isotope products have contributed to progress in medical research and practice, new industrial processes, and scientific investigation. Substantial national and international infrastructure has been built around the use of isotopes and is dependent on the Department's products and services. Isotopes are used for hundreds of research, biomedical, homeland security, and industrial applications that benefit society every day, including heart imaging, cancer therapy, smoke detectors, neutron detectors, explosive detection, oil exploration, and tracers for climate change.

Isotope applications are widely used in medical research, diagnosis, and therapies, which are a growing component of the U.S. health care system. The use of medical isotopes reduces health care costs and improves the quality of patient care. It is estimated that one in every three people treated at a hospital

makes use of a radioisotope in their laboratory tests, diagnoses, or therapy. Each day, over 40,000 medical patients receive nuclear medicine procedures in the United States. Such nuclear procedures are among the safest diagnostic tests available. They save many millions of dollars each year in health care costs and enhance the quality and effectiveness of patient care by avoiding costly exploratory surgery and similar procedures. For example, it has been demonstrated that the use of myocardial perfusion imaging in emergency department chest pain centers can reduce the duration of stay on average from 46 hours to 12 hours. Therefore, an adequate supply of medical and research isotopes is essential to the Nation's health care system, and to basic research and industrial applications that contribute to national economic competitiveness.

Isotope uses in homeland security applications are also increasing, and include: radiation portal monitors used to find unshielded or lightly shielded radiological material; imaging systems used to find densely shielded material; systems to detect the presence of nitrogen-based chemical explosives; and other forms of explosive detection.

For the future, the Department foresees more than moderate growth in isotope demand, coupled with the possible need for new isotope products for homeland security, medicine, and industry. In order to satisfy the needs of its customers, the program seeks to meet supply requirements for year-round availability of isotopes for scientific and medical research and, in particular, for human clinical trials. The program's production capability may be called upon for initial ramp-up of production of major new isotope products until market forces bring in private producers that are willing to invest and produce the needed isotopes.